



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

JUL 27 2000

Mr. Kevin Mayberry
Sand Creek Project Manager
Corps of Engineers
215 North 17th Street
Omaha, NE 68102-4978

Dear Mr. Mayberry:

Re: Review of the Draft Interim Feasibility Report and Environmental Impact Statement for the Sand Creek Watershed Environmental Restoration in Saunders County, Nebraska

The Environmental Protection Agency has reviewed the Draft Interim Feasibility Study and Environmental Impact Statement (DEIS) for the Sand Creek Watershed Environmental Restoration, in Saunders County, Nebraska. Our review is provided pursuant to the National Environmental Policy Act (NEPA) 42 U.S.C. 4231, Council on Environmental Quality (CEQ) regulations 40 C.F.R. Parts 1500-1508, and Section 309 of the Clean Air Act (CAA). The DEIS was assigned the Council on Environmental Quality (CEQ) number 000178.

The DEIS analyses the need for environmental restoration in the Sand Creek Watershed because of poor water quality, sedimentation, erosion, and loss of wetlands, caused by highly erodible soils, stream channelization, and agriculture land use. In order to improve water quality and the natural environment, the Corps of Engineers proposes to: 1) construct a 639 acre lake and wetland complex; 2) construct seven small sediment retention ponds; and 3) restore 104 acres of bottomland wetlands. Flood control and recreational uses are indicated as incidental benefits of the project.


Although the stated purpose (Purpose and Need Section) of the proposed project is "environmental restoration," EPA is concerned that documentation to support this purpose is diminished relative to flood control and recreation benefits. Throughout the DEIS, the incidental benefits of flood control and recreation are given a significant level of review, whereas support for environmental restoration is based on outdated data that does not sufficiently address the current state of the watershed.

Outdated information, therefore, cannot sufficiently support the need for the project as outlined. Additionally, the effects of improved agricultural management practices which have been implemented over the past 13 years is not given a sufficient level of evaluation in the DEIS. Many contemporary farming practices, (such as conservation tillage, no-till, etc.) have been implemented for the express purpose of improving water quality, and controlling soil and nutrient loss.

Based on our overall review, and considering the level of detail that prompted each of our detailed comments (enclosed), we have assigned the DEIS a rating of EC-2 (Environmental Concerns - Inadequate Information). A copy of EPA's rating system criteria is provided as an attachment to these comments.

EPA commends the Corps of Engineers for their efforts in interagency coordination, seeking public participation, and for including a range of alternatives. Please send one copy of the Final EIS to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please contact Royce B. Kemp at (913)551-7551.

Sincerely,



Leo J. Alderman, Director
Environmental Services Division

Enclosure(s) - 3

cc: Steve Anshutz, USFWS
John Bender, NDEQ
Brad Soncksen, NRCS
Mike Brecka, Saunders County Farm Service

EPA's Detailed Comments on the Draft Interim Feasibility Report and Environmental Impact Statement for the Sand Creek Watershed Environmental Restoration in Saunders County, Nebraska

1. Synopsis, Relationship to Environmental Requirements. This section provides a very concise overview of the many applicable laws and executive orders and how they relate to this project, however, the Executive Order on Environmental Justice (E.O. 12898) is omitted from this list.

2. Chapter 1, Purpose and Need, Need for Improvement in Surface Water Quality and Reduction in Sedimentation (pages 1.6-1.10). This section uses data that is significantly outdated or misleading. For example:

- Figure 1.2 actually represents averaged sediment loads that are based on data obtained from 1980 and projected on a simplified, (and modified)1962 map,

- Figure 1.3 illustrates nitrogen export in the watershed without indicating that the data is from 1987 (also, the web address listed for this figure is incorrect and should be corrected as follows - http://www.epa.gov/iwi/1999april/iii19_r7map.html). The age of the data is important because the water quality in the watershed has improved since these values were reported.

- Table 1.1 compares sediment yield to watershed size of significantly different water bodies, in geophysical form, function and impact to the environment, giving the appearance that the problem is much worse than may actually be the case when compared to similar watersheds.

This section also states that the sediment load will be reduced (and/or removed as stated elsewhere in the document, e.g., page 8.1 and Appendix A, page A.1) and that agricultural contaminants will be removed from the watershed. However, sediment and agricultural contaminants (such as phosphorous) will still be deposited and collected in the watershed in the seven NRCS ponds and the proposed Lake Wanahoo, requiring further maintenance and expense in the future. Therefore, EPA believes that it is inappropriate to make this statement since these contaminants and sources of water quality degradation will not be *removed* from the watershed.

While the vulnerability of the watershed *can* be characterized as having a potentially high risk of sediment and nutrient loading from agricultural practices, the overall water quality and condition of the watershed is improving (EPA's Index of Watershed Indicators, National Watershed Characterization, September 1999). EPA, therefore, believes an accurate representation of the current environmental state of the watershed is not portrayed by the DEIS. Thus, the DEIS cannot substantiate the need for the project, nor be used for a meaningful analysis of the issues.

3. Chapter 1, Purpose and Need, Need for Restoration and Creation of Scarce and Significant Floodplain Bottomland Wetlands. This section lacks substantial scientific support for the estimation of wetlands in the watershed. In fact, this section even states that it is only possible to "*make only the roughest estimate of the pre-settlement acreage of wetlands in the Sand Creek watershed.*" Factors such as climate change or long-term geomorphological processes are not

taken into account that alter the landscape, and which could be responsible for the predicted loss of wetlands. Thus, while it is not argued that wetland acreage has been lost to agricultural practices and other anthropogenic impacts, an accurate and meaningful figure cannot be represented for pre-settlement wetland acreage.

4. Chapter 1, Purpose and Need, Summary of Prior Studies, Reports, and Existing Projects (pages 1.18-1.20). While this section provides a good description of prior studies, reports, and projects, it would be beneficial to briefly describe the outcome or current status of each study, report, and project.

5. Chapter 1, Purpose and Need, General Comment. The stated **purpose** of the project is "environmental restoration" and the **need** is attempted to be justified by documentation of a degraded watershed environment. However, flood control and recreation are also substantial needs that are anticipated to be met by the project. The DEIS does not provide the level of information necessary with which to justify the need(s) for this project.

This project is, in fact, extremely similar to the Corps Study on Salt Creek and its Tributaries, described on page 1.18, which were proposed and constructed as flood control projects. These structures are now in a severely degraded environmental state and are being revisited in order to address sedimentation in-fill through methods such as sediment retention ponds as well as those proposed in this project. Furthermore, (and more currently), the 1998 National Resource Conservation Service (NRCS) Watershed Plan and EIS for Wahoo Creek Watershed proposed seven small impoundments (which are included as part of the preferred alternative in this DEIS) and states that they are intended to control flooding with decreased erosion and increased water quality as *secondary* benefits (page 1.20). EPA recommends revision of this entire section to reflect a more accurate Purpose and Need, and provide sufficient and relevant justification for this project.

6. Chapter 2, Plan Formulation (Alternatives chapter), Environmental and Economic Benefit Evaluations (pages 2.5-2.7). EPA is encouraged that the Corps is recognizing the need to assign a benefit value to the somewhat intangible environmental restoration outcomes, and incorporating those benefits into the decision making process as is done in this DEIS. EPA believes, however, that the Flood Damage Reduction Benefits (page 2.7) should be calculated using standard Corps procedures for estimating the Cost/Benefit Ratio of the project, as is undertaken for other flood control projects, in order to more thoroughly analyze the cost effectiveness of the proposal. Recreational benefits and impacts should be quantified to a similar degree and further evaluated in the DEIS for their economic and cumulative environmental impacts.

7. Chapter 2, Plan Formulation (Alternatives chapter), Development of Seven NRCS Ponds in the Upper Portion of Sand and Duck Creek Watershed (page 2.13). This section references the location of the seven ponds in Figure 2.2, however, these ponds are not identifiable in the figure.

8. Chapter 2, Plan Formulation (Alternatives chapter), General Comment. This chapter does not include reasonable alternatives not within the jurisdiction of the lead agency (40 CFR 1502.14(c)). Throughout the DEIS, the causes for environmental degradation in the watershed

are attributed to agricultural practices which are further compounded by the topographic characteristics of the watershed., leading to such damaging environmental conditions as soil erosion, degraded water quality, and loss of habitat. In fact, the DEIS states that the overriding factor contributing to the problems that face the watershed is non-point source runoff (page 1.5). Additionally, Appendix G, page G.23 states that the watershed lacks sufficient land treatment measures and estimates that future land practices will reduce average annual erosion rates by over half of the existing rate to 5 tons/acre-year, and states that the Corps figures for sedimentation will be below the figures represented in the DEIS. The rate of 5 tons/acre/year represents a level that is acceptable to the State of Nebraska and the NRCS. However, the DEIS does not propose an alternative(s) to implement improved land stewardship and agricultural best management practices that may also achieve project goals.

In order to accomplish the intended goals of reduced sediment loading and improved water quality in the watershed, EPA recommends management measures such as a Conservation Management System (CMS) Alternative that can be evaluated and given equal consideration in the DEIS. A CMS contains a combination of conservation, agricultural, and/or land management practices that achieves a desired goal. The criteria (of a CMS) are established at the State level by the Area Conservationist and State Conservationist of the USDA Natural Resource Conservation Service (NRCS). Other environmental restoration recommendations are provided in the "Detailed Comments on Wetland Resources and Issues from EPA Region 7's Water, Wetlands, and Pesticides Division, Water Resource Protection Branch" enclosure following these comments.

This chapter also does not appear to include appropriate mitigation measures for the alternatives, nor does it discuss the mitigation measures for the preferred alternative, as required by 40 CFR 1502.14(f).

9. Chapter 3, Affected Environment, Community and Regional Growth. Although this section lists population and income data from the 1990 Census Report, it does not adequately describe the minority and low income population in the project area (if applicable) and how this segment of the population will be affected by the project (40 CFR 1502.15 and E.O. 12898). This section should also include how this segment of the population uses the environmental resources in the project area.

10. Chapter 3, Affected Environment, Water Quality (pages 3.14-3.18). This section does not provide current information on the water quality in this watershed and is therefore not commensurate with the level of importance that should be attributed to this environmental parameter. For example, the pH, dissolved oxygen, and turbidity data that is referenced in this section was collected in the 1970's. It does not seem unreasonable that current water quality parameters could be collected and discussed in this section as are the Run-off Event data shown in Table 3.10. EPA recommends updating the Surface Water Quality and Ground Water Quality Data sections with current data that can be used to succinctly and accurately describe this part of the affected environment (40 CFR 1502.15).

11. Chapter 3, Affected Environment, Cultural Resources (page 3.23). This section states that additional cultural investigation was conducted for this study, but does not provide that information. EPA recommends providing a description of that investigation in this section.

12. Chapter 4, Environmental Consequences, General Comments. This chapter lacks discussion of indirect impacts and their significance as required by 40 CFR 1502.16(b) and is generally inconsistent in how the environmental consequences are presented throughout the chapter. For example, some sections specifically list direct impacts while others do not, and some sections include only a brief discussion on cumulative impacts, while other sections do not address cumulative impacts at all. It is also unclear why such detail is given on the Surface Water Quality section (page 4.22-4.24), when this information would be better suited in the Affected Environment chapter.

Overall, cumulative impacts are not adequately addressed in this section and lack sufficient, comprehensive analysis. For example, the DEIS does not take into consideration how one effect will impact another such as development of Lake Wanahoo, the resulting increase in the population within the project area, and then the necessary infrastructure improvements in the project area. It would be reasonable to forecast that further environmental degradation will occur because of these cumulative impacts, which should be discussed more thoroughly in the DEIS (40 CFR 1508.7). It is of particular concern to EPA that cumulative impacts to the floodplains are not discussed within the DEIS.

13. Chapter 4, Environmental Consequences, Community and Regional Growth (page 4.3-4.4). This section fails to fully analyze and discuss the impacts upon the watershed from the predicted regional growth, as a result of this project. Only positive benefits are discussed, ignoring the indirect and cumulative negative impacts that result from increased run-off from development, increased pollution from vehicular traffic, and associated increased habitat pressure within the watershed.

Additionally, the justification for the determination of impacts to low income and/or minority populations is flawed in the DEIS. Given the rural nature of the project area, it is inappropriate to combine impacted residences or businesses to that of the whole county, or nearby city. Instead, EPA recommends investigating, reporting on, and giving consideration to, the *actual* population and/or businesses affected in the project area in order to determine if there are Environmental Justice issues and concerns.

14. Chapter 4, Environmental Consequences, Wetlands. The Wetlands, No Action Alternative on page 4.33 sub-section (one sentence) contains an incomplete sentence. Furthermore, this section (Wetlands) does not address cumulative impacts. For additional, detailed comments on this section, please see the comments from EPA's Region 7 Water, Wetlands, and Pesticides Division, Water Resource Protection Branch following these comments.

15. Chapter 4, Environmental Consequences, Fish and Wildlife, Cumulative Impacts (page 4.42). This section does not adequately take into account effects to fish and wildlife resources that will be impacted by development in the project area which are *restored or created* by the project. It would be reasonable to assume if the project is implemented that wildlife and wildlife

habitat in the project area will increase and that future development will have an effect on those resources.

16. Chapter 5, Description of Selected Plan, Land Treatment Programs (page 5.6). EPA is encouraged that this section addresses land use management practices through various programs as a means of improving the water quality in this watershed.

17. Chapter 5, Description of Selected Plan, Mitigation, Endangered Species (page 5.10). This section should disclose the agreement recently reached by the parties of the DEIS to release an equivalent flow of water from Lake Wanahoo during the months of March, April, and May to account for flow depletions caused by evaporation.

18. Additional DEIS Comment. It is recommended that the section entitled List of Agencies, Groups, and Individuals Receiving Document (currently located in Volume 2 - Appendices) be included in Volume 1 of the DEIS, as a separate chapter (40 CFR 1502.10).

**Detailed Comments on Wetland Resources and Issues from EPA Region 7's Water,
Wetlands, and Pesticides Division, Water Resource Protection Branch**

EPA believes that other reasonable and prudent alternatives that haven't yet been addressed in the Report may exist for meeting such project goals. First, the watershed contains streams with deeply cut streambeds with steep-sided banks. Many stream reaches have been channelized and the upper reaches of small tributaries have been gullied and eroded (page 3.1, Section 3.1.1), particularly in the "western part of the watershed." Streambanks and channels generate a disproportionately large amount of sediment that adversely affects water quality (page 3.2, Section 3.1.5). Further, the proposed project will result in the loss of riverine wetlands that additionally are not targeted as part of the proposed mitigation (page 5.9, Section 5.3). Secondly, the watershed contains evidence of what was once more abundant wetland resources. From less than two to five percent of the original floodplain wetlands remain in floodplain locations due to farming, impoundments, levees, etc. (page 1.11, Section 1.2.3 and page 3.20, section 3.13.1). Also, it is estimated that 79% of Todd Valley wetlands have been lost or degraded due to agriculture, drainage, etc. (Table 1.3 and page 3.19, section 3.13.1) and no restoration has been conducted on these wetlands (page 1.12, section 1.2.3). Based on the above, we recommend that the revised draft Report address the feasibility and impacts associated with the following: 1) restoration of meandering stream channels; 2) stabilization of existing stream and tributary channels using traditional techniques as well as conventional bioengineering techniques; and 3) restoration of additional wetlands, including Todd Valley wetlands, through the use of various conservation programs (e.g., WRP, EWRP, Partners for Wildlife, State wetland habitat funds, etc.).

The project sponsors have estimated that wetlands will be created in the proposed Lake Wanahoo to depths of 6 feet (page 4.27, section 4.13.1). Such wetlands would comprise approximately 415.9 acres (i.e., 427.9 - 12.0, page 4.29, Table 4.5b). The Report indicates, however, that surface waters in the watershed are high in sediments (page 3.14, section 3.12.1) and that turbidity measurements have been high (page 3.16, section 3.12.1). We are concerned that the proposed created wetland area projected for the project could be significantly over stated given the potential for poor germination and growth conditions (i.e., low light penetration, lack of initial seed bank and soil conditions). Although this concern should not create shortfalls in required mitigation under Section 404, it does present an opportunity to compare the results of palustrine wetland creation with estimates for such habitat. We suggest that the project sponsors monitor habitat development conditions.

It is indicated in the Report that Todd Valley wetlands targeted for restoration will be planted with seeds from stock only if such sites do not naturally re-establish (page 4.27, section 4.13.1). Because there is a risk that past land-use practices (e.g., intensive farming, drainage) may have reduced the viability of the seed bank for these sites, we recommend that the Section 404 permit for the project require vegetation monitoring at the Todd Valley restoration sites for a period of at least 3 years. Sites not achieving performance standards (i.e., greater than 70% wetland vegetation aerial coverage, a diverse community of native plants, *Typha* cattail dominance not exceeding 30 percent, and the presence of exotic pest species including reed canarygrass and purple loosestrife not to exceed 1 % aerial coverage) after 3 years should be

required to be planted with a mix of native hydrophytic vegetation. The species mix could be based on information derived from a reference wetland located in the Todd Valley complex.

Finally, we recommend that the Final EIS correctly reflect the number of palustrine wetland acres that are anticipated to be restored or created by the proposed project. On page S.7 under Protection of Wetlands (E.O. 11990), it is reported that the project will result in a net gain of 1,117.6 acres of palustrine wetlands. On page 4.3, it is reported that the project will result in a net gain of 641.3 acres of palustrine wetlands and a total aquatic habitat gain of 1,117.6 acres.